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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,606	06/06/2006	Allan Craig Marshall	0-010527USWZFN	2856

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EXAMINER	
HIGGINS, GERARD T	

ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/565,606	MARSHALL ET AL.	
	Examiner	Art Unit	
	GERARD T. HIGGINS	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 January 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The preliminary amendments to the specification and claims filed on 01/23/2006 and 11/03/2006 have been entered. Currently, claims 1-21 are cancelled and claims 22-41 are pending.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: **23a** and **23b**. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the

examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claim 38 is objected to because of the following informalities: "second sheet being least partially" is awkward.

Appropriate correction is required.

5. Applicant is advised that should claim 24 be found allowable, claim 26 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). The properties of absorbance and transmittance are logarithmically related to one another ($T = 10^{-A}$) such that an object that is "partially absorptive" to far-infrared wavelengths must necessarily be "partially transmissive" to far-infrared wavelengths.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 31, 35, 36, and 39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "simulate" in claim 31 is a relative term which renders the claim indefinite. The term "simulate" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear as to how similar the reflectance spectra must be in order to properly simulate chlorophyll, and hence this claim is indefinite.

The term "highly" in claim 35 is a relative term which renders the claim indefinite. The term "highly" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear how much reflectance is required in order for the component to be considered “highly surface reflective,” and hence this claim is indefinite.

With regard to claim 39, the phrase “when said first sheet is removed from said second sheet” leads the claim to be indefinite because if said first sheet is covering the object to be camouflaged, it is unclear how the second sheet would provide a camouflage effect if the two sheets are detached.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 22-26, 31, 32, 40, and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Nägele (DE 1063936), machine translation included.

With respect to claims 22-26, Nägele discloses camouflage fabrics designed to not only hide the intended structure from visual recognition, but also from infrared detection (col. 1, lines 1-32). Infrared detection includes affecting the near, mid, and far-infrared wavelengths and also affecting the absorption, transmission, and reflection of those wavelengths. The fabrics may be of a single starting color. The Examiner deems that these fabrics may inherently be white to begin with before the application of dyes. Given how broadly inks are claimed in the present set of claims, it is clear that the dyes of Nägele would fall under inks as presently claimed. Nägele colors the fabrics by using a variety of dyes to dye the entire fabric to match the environment in which the fabric is designed to be used, paying close attention to the visual and infrared spectra of said fabrics (col. 1, line 43 to col. 2, line 51).

With regard to claims 31 and 32, at col. 1, lines 33-42 and col. 3, lines 36-49 teach that matching the IR spectrum, particularly the near-IR, of chlorophyll is extremely important for matching the local environment for which the camouflage is to be used.

With regard to claims 40, Nägele discloses having various color tones such as olive, earth tone, khaki, etc. The plurality of inks would provide differing visible and infrared characteristics.

With regard to claim 41, Nägele the translation discloses the term "university-colored" this is a mistranslation as it should be “uniformly colored,” which means that the fabric may be a single color, and hence completely covered by said inks.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nägele (DE 1063936), as applied to claim 22, in view of Cox et al. (6,127,007).

Nägele teaches all of the limitations of applicants' claim 22, including teaching that there might be overlays on the base fabric for matching the base fabric to the environment in which it was intended to be used; however, it does not clearly state that the overlays are removably adhered.

Cox et al. teach at col. 3, lines 28-49 that removable strips are adhered to the camouflage covering in order to match the visible and infrared characteristics of the camouflage covering to the surrounding in which it is to be used.

Since Nägele and Cox et al. are both drawn to camouflage articles for mimicking the visible and infrared characteristics of the surrounding environment, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the removably adhering camouflage strips of Cox et al. on the camouflage fabric of Nägele in order to adjust the camouflage fabric to the environment in which it was to be used. The results of which would have been predictable to one having ordinary skill in the art of camouflage; further, one of ordinary skill would have recognized that each of the elements would have performed the same in combination as they had separately.

12. Claims 27, 29, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nägele (DE 1063936), as applied to claim 22, in view of Heiniger (WO 98/36234), of which US 6,605,340 is a national stage entry of the same and will be used herein as a translation.

Nägele discloses all the limitations of applicants' claim 22 as seen in section 9 above; however, it fails to disclose a radar absorbing material in said first sheet or wherein said covering is embossed.

Heiniger teaches at col. 3, line 66 to col. 4, line16 that it is important for their camouflage covering to be active as multi-spectral camouflage. They want not only IR

activity but also radar activity for the camouflage material. They achieve this by either the layer thickness of the radar absorbing layer or changing the material that comprises the radar absorbing layer; furthermore they teach that the camouflage area may be shaped to have three dimensions (embossed).

Since Nägele and Heiniger are both drawn to camouflaged materials, it would have been obvious to one having ordinary skill in the art to combine the radar absorption techniques of Heiniger into the camouflaged fabrics of Nägele. The results of which would have been obvious to one having ordinary skill in the art of camouflage techniques; further, each of the elements would perform the same in combination as they had separately.

13. Claims 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nägele (DE 1063936), as applied to claim 22, in view of Sternson Laboratories (GB 565,238).

Nägele discloses all the limitations of applicants' claim 22 as seen in section 9 above; however, it fails to disclose a highly surface reflective component comprising a surface reflectance of at least 78%.

Sternson Laboratories discloses a composition to be applied to building structures and the like for the purpose of camouflaging not only in the visible, but also in the infrared portion of the electromagnetic spectra. They accomplish this by providing an inner layer of infrared reflective materials (page 1, lines 52-86).

Since Nägele and Sternson Laboratories are both drawn to camouflaging of buildings and other objects in both the visible and infrared spectra, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the reflective materials of Sternson into the camouflaging fabric of Nägele. The results of which would have been predictable to one having ordinary skill in the art of camouflaging materials; further, the elements would perform the same in combination as they had separately.

With respect to the value of reflectance of 78%, it would have been obvious to one having ordinary skill in the art to vary the reflectance of the covering to whatever value was appropriate for applicants' intended use in order to guarantee that the object to be camouflaged would not be detected.

14. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nägele (DE 1063936), as applied to claim 22, in view of Heiniger (WO 98/36234) as applied to claim 27 above, and further in view of Berg (4,479,994).

Nägele in view of Heiniger renders obvious applicants' claim 27 as seen in section 12 above; however, it fails to disclose a radar absorbing material of carbon.

Berg discloses using carbon as a radar absorbing material for camouflage (col. 3, lines 27-29).

Since Nägele, Heiniger, and Berg are all drawn to camouflaged coverings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the mere substitution of carbon as seen in Berg as the radar

absorbing materials in the device of Nägele in view of Heiniger. The results of which would have been predictable to one having ordinary skill in the art of radar camouflaging.

15. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nägele (DE 1063936), as applied to claim 22, in view of McKinney et al. (6,373,058).

Nägele discloses all the limitations of applicants' claim 22 as seen in section 9 above; however, it fails to disclose using phase change materials to aid in camouflaging the object to be covered.

McKinney et al. disclose using phase change materials to camouflage objects (Abstract).

Since Nägele and McKinney et al. are both drawn to camouflaging of objects in the infrared region, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the phase change materials of McKinney et al. into the camouflage covering of Nägele in order to further reduce the chance that external sources will detect the infrared radiation emitted from the object to be camouflaged. The results of this combination would have been predictable to one having ordinary skill; further, one of ordinary skill would have recognized that each of the elements would perform the same in combination as they had separately.

16. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nägele (DE 1063936) in view of Hellwig (4,645,704).

Nägele discloses all the limitations of applicants' claim 22 as seen in section 9 above; however, it fails to disclose using a layer of lacquer.

Hellwig discloses textile webs that are useful for camouflaging objects and especially reflecting infrared radiation (col. 4, line 67 to col. 5, line 11). Hellwig discloses that a layer of lacquer may be applied to the web to protect the article from abrasion, damage, and wear (col.3, lines 17-22).

Since Nägele and Hellwig are both drawn to camouflage coverings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the lacquer coating of Hellwig and the camouflage covering of Nägele. The results of which would have been predictable (increased protection from abrasion, damage, and wear) to one having ordinary skill in the art of camouflage coverings; further one of ordinary skill would have recognized that each of the elements would have performed the same in combination as they had separately.

17. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nägele (DE 1063936) in view of Kosson et al. (5,117,737).

Nägele discloses all the limitations of applicants' claim 22 as seen in section 9 above; however, it fails to disclose using a layer of polyvinyl fluoride.

Kosson et al. disclose using plastic materials to reduce thermal (IR) emissions as camouflage coverings. They disclose the polyvinylfluoride material Tedlar® (col. 4, lines 30-60).

Since Nägele and Kosson et al. are both drawn to camouflage coverings designed to reduce detection by infrared emissions, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine a layer of Tedlar® as seen in Kosson et al. as a layer in the camouflage covering of Nägele. The results of which would have been predictable to one having ordinary skill in the art of camouflage coverings; further, one of ordinary skill would have recognized that each of the elements would have performed the same in combination as they has separately.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited but not applied art has to do with decoy devices employing infrared radiation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD T. HIGGINS whose telephone number is (571)270-3467. The examiner can normally be reached on M-F 7:30am-5pm est. (1st Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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